# CELITE

An admixture composed of extremely finely divided silica

Uniformity

Density

# The Keystone of Economic Concrete

Drier Consistency

Higher Strength

Increased Water Tightness

Decreased Manipulation

Decreased Labor Costs

Quicker Mixer Discharge

*Celite Overcomes All Objections to Central Mixing*

## CELITE PRODUCTS COMPANY

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# CELITE

## Insures Better Concrete at Less Cost

ECONOMY in concrete work depends on four important items. Material costs must not be increased, and should be decreased wherever possible. Handling costs have to be kept down. Labor costs for manipulation should be reduced as far as possible. Uniform, durable concrete must be produced.

## Celite Is the Keystone of Economic Concrete

Celite, as an admixture, actually adds nothing to the cost of concrete. In normal concrete mixtures, its cost, represents about three per cent of the concrete cost, which is more than offset by the increase in bulk it gives. Usually this "bulking" amounts to four, five or six per cent of the concrete in place.

The cost of handling ingredients is reduced by the use of Celite because less manipulation is required. Furthermore, central mixing is made practicable. There is no segregation during transit, no difficulty in discharging from trucks, and the concrete is easily manipulated during placement.

In a series of experiments recently completed, Celite concrete after being poured into test block forms without manipulation of any kind, was transported over six miles by motor truck. After hardening, these test blocks showed uniform structures throughout, whereas test blocks of plain concrete given the same treatment showed disastrous segregation.

## Increased Workability

Celite in concrete produces mixture that is much more workable than plain concrete. It actually flows into place when no more than the correct amount of water is used. There is no temptation to use excess mixing water and thus impair the quality of the concrete.

This increased workability is the basis of greater uniformity, strength, water-tightness and durability. Results from official tests presented on the opposite page indicate that Celite concrete at all times maintains its superior strength and uniformity over plain field concrete.

Ordinary field concrete made without Celite segregates in handling and is not readily workable.

Concrete in which Celite is used because of its better workability, actually flows into place.

# CELITE

## Insures Better Concrete at Less Cost

THE first economy effected by the use of Celite in concrete is a definite increase in bulk. Where large quantities of plain concrete and Celite concrete have been laid under similar conditions, this "bulking" effect of Celite has been accurately measured.

An average of five per cent greater bulk due to the use of Celite is indicated in the records presented at the right of six State Highway projects. While the increase in bulk is only one of the advantages introduced by the use of Celite, it appears that this feature alone more than repays its cost which averages less than three per cent of the total material cost.

1:2:4 CONCRETE IN PAVEMENTS

| Proj. No. | Linear Feet Laid: Plain or with hydrated lime | Linear Feet Laid: Celite concrete | Cement Used Bags Per Foot: Plain or with hydrated lime | Cement Used Bags Per Foot: Celite concrete | Amount of Celite used | Additional Concrete due to bulking of Celite |
|---|---|---|---|---|---|---|
| Del. A | 11522 | 4024 | 2.21 | 2.08 | 4% | 6.3% |
| Del. B | 5663 | 6675 | 2.115 | 2.00 | 3% | 5.8% |
| Del. C | 7616 | 12405 | 1.81 | 1.73 | 3% | 4.6% |
| Del. D | 12124 | 15953 | 1.85 | 1.76 | 3% | 5.1% |
| N.C. E | 11040 | 9052 | 2.24 | 2.13 | 3% | 5.2% |
| N.C. F | | | 2.18 | 2.09 | 3% | 4.1% |
| Average. | | | 2.04 | 1.94 | 3% | 5.0% |

Cost of Celite used: 3% with concrete at $12 per cubic yard, 2.3% at $16, and 2% with concrete at $20 per cubic yard.

## Field Tests Show Increased Strength—Better Uniformity

That Celite concrete is stronger and more uniform than plain concrete has often been proved in the field as well as in the laboratory.

The North Carolina Tests of plain and Celite concrete, made on samples cut right out of highway pavements, are particularly interesting.

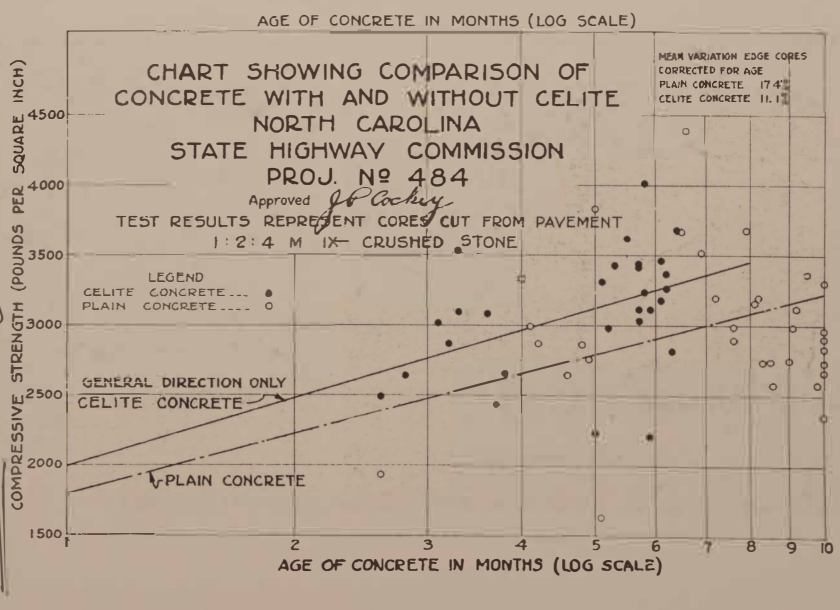
As shown by the curves presented below, concrete in which Celite is used indicates its superiority of strength over plain concrete.

The wide variation in the strength values shown is typical of field concrete, which can seldom be laid under the ideal conditions to be found in the laboratory. Over half of this variation is due to manipulation.

This variation amounts to 17.4 per cent for plain field concrete while it is only 11.1 per cent from the average in the Celite concrete cores tested.

Better uniformity in finished concrete is of course a direct result of the increased workability of the mixture attained by the use of Celite.

IN ADDITION to insuring increased strength and better uniformity, Celite in concrete enables central mixing in large batches. It reduces labor costs and obviates the use of excess mixing water. Composed of especially prepared silica which is not effected by water or climatic conditions, Celite can be stored anywhere, for any length of time. In concrete mixtures it has no chemical action to retard or accelerate setting.



*CELITE for concrete, now being produced in large quantities for commercial work, is supplied by an old established firm. Other Celite products, Sil-O-Cel insulating materials, Filter-Cel filtration aids, Fraxite high temperature cement and Celcote boiler wall coating are well known in factories, power plants, chemical works and sugar refineries. For the distribution of those products, an extensive sales and engineering organization has been built up. The twenty-five Celite offices and warehouses maintained in the principal cities of the United States as well as in Canada and Great Britain are always at the service of users of Celite in concrete.*